

We claim:

1. A targeting construct comprising:

- (a) a first polynucleotide sequence homologous to a CRFR2 gene;
- (b) a second polynucleotide sequence homologous to the CRFR2 gene; and
- (c) a selectable marker.

2. The targeting construct of claim 1, wherein the targeting construct further comprises a screening marker.

3. A method of producing a targeting construct, the method comprising:

- (a) providing a first polynucleotide sequence homologous to a CRFR2 gene;
- (b) providing a second polynucleotide sequence homologous to the CRFR2 gene;
- (c) providing a selectable marker; and
- (d) inserting the first sequence, second sequence, and selectable marker into a vector, to produce the targeting construct.

4. A method of producing a targeting construct, the method comprising:

- (a) providing a polynucleotide comprising a first sequence homologous to a first region of a CRFR2 gene and a second sequence homologous to a second region of a CRFR2 gene; and
- (b) inserting a positive selection marker between the first and second sequences to form the targeting construct.

5. A cell comprising a disruption in a CRFR2 gene.

6. The cell of claim 5, wherein the cell is a murine cell.

7. The cell of claim 6, wherein the murine cell is an embryonic stem cell.

8. A non-human transgenic animal comprising a disruption in a CRFR2 gene.

9. A cell derived from the non-human transgenic animal of claim 8.

10. A method of producing a transgenic mouse comprising a disruption in a CRFR2 gene, the method comprising:

- (a) introducing the targeting construct of claim 1 into a cell;
- (b) introducing the cell into a blastocyst;
- (c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein said pseudopregnant mouse gives birth to a chimeric mouse; and
- (d) breeding the chimeric mouse to produce the transgenic mouse.

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11. A method of identifying an agent that modulates the expression of a CRFR2, the method comprising:
- (a) providing a non-human transgenic animal comprising a disruption in a CRFR2 gene;
  - 5 (b) administering an agent to the non-human transgenic animal; and
  - (c) determining whether the expression of CRFR2 in the non-human transgenic animal is modulated.
12. A method of identifying an agent that modulates the function of a CRFR2, the method comprising:
- 10 (a) providing a non-human transgenic animal comprising a disruption in a CRFR2 gene;
  - (b) administering an agent to the non-human transgenic animal; and
  - (c) determining whether the function of the disrupted CRFR2 gene in the non-human transgenic animal is modulated.
13. A method of identifying an agent that modulates the expression of CRFR2, the method comprising:
- 15 (a) providing a cell comprising a disruption in a CRFR2 gene;
  - (b) contacting the cell with an agent; and
  - (c) determining whether expression of the CRFR2 is modulated.
14. A method of identifying an agent that modulates the function of a CRFR2 gene, the method comprising:
- 20 (a) providing a cell comprising a disruption in a CRFR2 gene;
  - (b) contacting the cell with an agent; and
  - (c) determining whether the function of the CRFR2 gene is modulated.
15. The method of claim 13 or claim 14, wherein the cell is derived from the non-human transgenic animal of claim 8.
16. An agent identified by the method of claim 11, claim 12, claim 13, or claim 14.
17. A transgenic mouse comprising a homozygous disruption in a gene comprising SEQ ID NO:1, or a homolog thereof.
- 30 18. The transgenic mouse of claim 17, wherein the transgenic mouse exhibits decreased activity relative to a wild-type control mouse.

19. The transgenic mouse of claim 18, wherein the transgenic mouse is hypoactive.
20. The transgenic mouse of claim 18, wherein the decreased activity is characterized by reduced distance traveled in an open field test.
21. The transgenic mouse of claim 17, wherein the transgenic mouse exhibits decreased susceptibility to seizure relative to a wild-type control mouse.
22. The transgenic mouse of claim 21, wherein the decreased seizure susceptibility is characterized by an increased metrazol response threshold.
23. Phenotypic data associated with the transgenic mouse of claim 17, wherein the phenotypic data is in a database.

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